

**Statement of  
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**Before the  
House Resources  
Subcommittee on Forests and Forest Health  
on  
Scientific Research and Knowledge-base concerning Forest Management  
Following Wildfires and Other Major Disturbances**

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**INTRODUCTION**

Mr. Chairman and Members of the Subcommittee,

Thank you for the opportunity to talk to you today about scientific research concerning forest management following wildfires and other major disturbances.

I am Dr. Cynthia West, acting director of the Pacific Northwest Research Station. The Station is one of eight research facilities in the Research and Development branch of the USDA Forest Service. These facilities collectively conduct the most extensive and productive program of integrated forestry research in the world. Our mission is to synthesize and communicate scientific knowledge that helps people understand and make informed choices about society, natural resources, and the environment. Our researchers work with a range of partners including scientists in other agencies, universities, nonprofit groups, and industry as well as community groups and state, local, and federal land managers. The information and technology produced through basic and applied science programs are available to managers, policy makers, and the public through many outlets.

The headquarters for the Pacific Northwest Research Station is in Portland, Oregon. The Station has 10 laboratories located in Alaska, Oregon, and Washington and employs about 95 scientists, and 400 technicians and support staff. Our research program includes studies on impacts and management of disturbances such as fire; interactions between upland management and aquatic systems; forest inventory and analysis, and social and economic impacts of resource management.

I am accompanied today by Dr. David L. Peterson, team leader of the fire and environmental research applications team at our Pacific Wildland Fire Sciences laboratory in Seattle, Washington. Dr. Peterson will be able to answer your questions about current and ongoing post fire management research.

First I would like to talk a little about the role of science, the process of scientific debate and discourse within the science community, and the role of science in land management decision-making.

## **THE ROLE OF SCIENCE**

Science can describe the connections between human and ecological systems, develop methods to forecast the occurrence of damaging fire events and other disturbances, and characterize the possible outcomes of alternative management options. Scientists can help managers interpret what they are seeing on the ground and can help evaluate the environmental effects, social and economic costs and benefits, and effectiveness of potential management programs towards reaching management objectives. This scientific information can help managers and policy makers to decide the most appropriate management strategies for specific situations.

For example, many managers in recent fire seasons have reported dramatic reductions in fire spread and intensity as fires entered stands that have been thinned or previously burned. In recent years, research results from carefully designed scientific studies on a number of sites have supported and added specificity to these observations. Scientists continue to work closely with managers to better interpret these events, improve models for predicting and visualizing fire behavior in modified fuels, and set up landscape scale experiments.

We know that the science basis for land management decision-making is more complete for some areas than for others. The PNW Station, along with its sister facilities, and other scientists are working to improve information so that managers and the public are able to evaluate alternatives using the best technical knowledge and expertise. We acknowledge that we have much to learn -- important knowledge gaps that we must address. Scientific research is a process of building knowledge study by study. As we are able to integrate results from multiple studies, we increase our understanding of where responses differ, and where they can be generalized. Scientists' ability to provide information will aid decision-makers.

## **DEBATE WITHIN THE SCIENCE COMMUNITY**

Scientists, through the peer review process and often vigorous discussion, seek to continually evaluate and improve the scientific body of evidence and the strength and range of applicability of their conclusions and results. Studies, especially in resource management, often vary greatly in scope and objectives, apply different methods, and control for different variables. Results are affected by the specific geographic area or forest type, variability in weather and climate conditions, and variability in the way management treatments are applied. Active discussion and debate within the science community can help sort out reasons for differences in results, and build scientific consensus on important issues. To external observers, this debate can be seen as an argument for or against a certain management practice or policy. But the best scientific debates lead to refinements in our understanding, new research to answer remaining questions, and better information for managers on the effects of management options under a range of scenarios. Scientific debates are focused on competing results or different possible explanations (theories) for those results. This contrasts with policy debates, which often derive from different philosophies of the role of government or of the desired social outcomes.

## **THE ROLE OF SCIENCE IN LAND MANAGEMENT DECISION-MAKING**

Management of fire and the effects of fire on the landscape raises many questions of policy in addition to questions of science. Although policy questions may often be framed as science

questions, many non-scientific considerations – such as societal goals, law, and economics – must be part of the answer to these policy questions. While science can provide a solid foundation for management and policy decisions, science alone is not sufficient to determine policy. Adaptive management by land managers is a useful tool that combines emerging research with evaluation of management practices. This approach enables managers to modify practices as our understanding of management impacts improves.

Debate over the effects and appropriate use of post fire management, including logging, has intensified in recent years as the sheer size of wildfires has grown. While many managers and scientists consider post fire logging as part of a suite of appropriate restoration techniques after wildfire, others argue that it causes damage to burned sites sufficient to outweigh potential benefits. These discussions have often been carried on with a notable absence of balanced evaluation of the available science. Some of these arguments have at their root different core philosophies on what constitutes appropriate management. Managers and policy makers need the best possible information, presented in an unbiased manner, to support them in developing sound and supportable recommendations for post fire management activities. The appropriate role of science is to provide such information while avoiding participating in policy or political debates.

## **SUMMARY**

Thank you for the opportunity to discuss with you the role of science in management decision-making and policy development. Dr. Peterson and I would be happy to answer any questions you may have.